ECE 656: Week 8 References

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The classic treatment of electrons and phonons in solids is the text by Ziman.

J.M. Ziman, *Electrons and Phonons*, Clarendon Press, Oxford, U.K. 1960.

For a good introductory treatment of thermal transport, see Chapter 8, Secs. 8.1-9.2 in:

Mildred Dresselhaus, Gene Dresselhaus, Stephen B. Cronin, and Antonio Gomes Souza Filho, *Solid State Properties: From Bulk to Nano*, Springer-Verlag, Berlin, 2018.

For a short, modern treatment of thermal transport, see:

T.S. Fisher, *Thermal Energy at the Nanoscale* (Vol. 3 *in Lessons from Nanoscience : A Lecture Notes Series*), World Scientific, Singapore, 2013.

Current research in phonon and thermal transport is discussed in the following papers.

F. Yang and C. Dames, "Mean free path spectra as a tool to understand thermal conductivity in bulk and nanostructures," *Phys. Rev. B*, **87**, 035437, 2013.

Jiawei Zhou, Bolin Liao and Gang Chen, "First-principles calculations of thermal, electrical, and thermoelectric transport, properties of semiconductors," *Semiconductor Science and Technology*, **31**, 043001, 2016.

The Landauer Approach to thermal transport is discussed in the following papers.

Changwook Jeong, Supriyo Datta, Mark Lundstrom, "Full Dispersion vs. Debye Model Evaluation of Lattice Thermal Conductivity with a Landauer approach," *J. Appl. Phys*. **109**, 073718-8, 2011.

Changwook Jeong, Supriyo Datta, and Mark Lundstrom, "Thermal conductivity of bulk and thin-film silicon: A Landauer approach," *J. Appl. Phys.*, **111**, 093708, 2012.

Changwook Jeong and Mark Lundstrom, "Analysis of Thermal Conductance of Ballistic Point Contacts," *Appl. Phys. Lett.,* **100**, 233109, 2012.